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**Remarks**

This Amendment is in response to the Final Office Action dated May 19, 2006.

In paragraph 1 of the Office Action dated May 19, 2006, the Examiner indicated that the language "any combination thereof" constituted new matter. Applicant specifically traverses the position of the Examiner, however, in order to expedite prosecution the Applicant has deleted the terms "any combination thereof" from claim 23 as amended herein.

In paragraph 2 of the Office Action of May 19, 2006, the Examiner asserted that the Applicants specification failed to provide enablement for how the vents are constructed and arranged to minimize sound report, and the Examiner asserted that Applicant's specification does not in and of itself enable one of ordinary skill in the art to make, or position, the vents without undue experimentation. Applicant respectfully traverses the position of the Examiner. Applicant specifically directs the Examiner to the attached declarations of Alan Corzine and Scott Christ, pursuant to 37 C.F.R. §1.132, as individuals having ordinary skill in the art who have reviewed Applicants specification and have stated that they would be able to make and position the vents along the length of the elongated gun barrel to minimize sound report at the muzzle end without undue experimentation. Applicant incorporates the attached declarations of Alan Corzine and Scott Christ herein in their entireties.

The attached Declarations indicate that Applicants specification does teach one of ordinary skill in the art how to make or position the vents along the barrel to minimize sound report at the muzzle end. Applicant respectfully requests the Examiner reconsider and withdraw the rejection in view of the attached declarations of Alan Corzine and Scott Christ, as incorporated herein by reference in their entireties.

In paragraph 3 of the Office Action dated May 19, 2006, the Examiner asserted

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that the Schumacher 5,315,914 reference taught that the vents of Schumacher are open directly to the atmosphere because the adjacent barrel is at atmospheric pressure. Applicant respectfully traverses the Examiner's assertion as to the teachings of the Schumacher '914 reference.

The Schumacher '914 patent teaches in essence an over-under or side-by-side barrel configuration for a firearm. In the Schumacher '914 reference, both barrels each have a muzzle end having a discharge opening, which is not a vent as disclosed and claimed by Applicant herein.

Applicants amended claim 1 herein specifically claims "said vents being constructed and arranged to minimize sound report by gradual releases of gasses directly to the surrounding atmosphere through said vents along said length dimension of said barrel toward said muzzle end". Claim 1 as amended herein recites "one elongate barrel having a breach end, a muzzle end, and a discharge opening". Within Applicants claim 1, the vents are separate and distinct elements from a discharge opening of a single elongate barrel.

The structure of Applicants claim 1 as amended herein directs gasses through the vents directly to the surrounding atmosphere as opposed to the Schumacher '914 reference which discloses vents into an adjacent barrel, which acts as the chamber of a gun silencer, where the gasses from the chamber of a defacto silencer subsequently empty into the atmosphere through the discharge opening of the muzzle end off a weapon barrel. In the Schumacher '914 reference, gasses exit into the adjacent barrel which acts as a chamber of a gun silencer and not through a vent directly into the surrounding atmosphere as claimed by Applicant herein.

The Schumacher '914 reference fails to suggest or teach the gradual release of gasses directly to a surrounding atmosphere through the vents along the length dimension of a elongate barrel toward the muzzle end of a firearm, minimizing gas pressure and sound report

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proximate to the muzzle end.

Also in paragraph 3 of the Office Action of May 19, 2006, the Examiner asserted that Applicant has not disclosed how to construct and arrange the vents in order to minimize sound report other than that disclosed by Renner U.S. Patent No. 5,844,162.

Applicant respectfully asserts that the specification does provide enablement for how the vents are constructed and arranged to minimize sound report.

The specification teaches that arranging the vents along the length of the elongate barrel minimizes sound report. The specification states that “[a] plurality of vents are preferably disposed through the elongate barrel where the vents initiate approximately 12 inches from the breach end, extending and terminating proximate to the muzzle end” (page 2, line 5-7) and that “[t]he positioning of the vents 30 along the length of the elongated vented gun barrel 10 preferably minimize sound report of the firearm 12 following discharge” (page 5, lines 79).

The specification further teaches that more vents help to minimize sound report because the high pressure gasses are slowly released through the vents positioned along the length of the barrel instead of being released instantaneously from the muzzle of the gun: “[t]he use of elongated vented gun barrel 10 enables the gradual release of high pressure gasses through the vents 30 to reduce sound report and sound pressure intensity emanating from the muzzle 16 by the time a projectile reaches the muzzle 16 following discharge of the ammunition. An increase in the length dimension of the elongated vented gun barrel 10 in turn, provides more space to strategically place vents 30, and more time to slowly release gas pressure in the barrel to minimize report” (page 6, lines 19-24). In addition, the general description states that one advantage of the present invention is “the controlled release of high pressure gasses more slowly to significantly reduce the sharpness of the report of a firearm” (page 2, lines 14-16). In another

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advantage is “the gradual and controlled venting of high pressure gasses to minimize firearm report” (page 2, lines 19-20).

In addition, the specification teaches that the position of the vents about the circumference of the barrel may be varied: “[t]he vents 30 as disposed within each section 32 may be aligned in a pattern of straight lines, offset lines, random spacing, and/or spiral configuration” (page 5, line 31- page 6, line 1).

Figures 1 and 2 illustrate the vents 30 positioned along the length of the elongated vented gun barrel 10. The figures also illustrate “vents 30 disposed within each sector 32 are regularly spaced from adjacent vents 30” (page 5, lines 19-20). The figures also illustrate that the spacing between vents can be different for different sectors. For example, Figure 2 shows a firearm with three sectors, each sector having different spacing between vents: The sector closest to the breach end has four inch spacing between vents, the middle sector has three inch spacing between vents, and the sector closes to the muzzle end has two inch spacing between vents (see Figs. 1, 2, and 3).

Applicant respectfully asserts that Figures 1, 3, and 6 of Renner teach a barrel with six tightly spaced vents positioned on each side of the barrel near the muzzle end of the rifle with no other vents positioned along the length of the barrel. According to Renner, ‘162 it is important that two sets of vents have a symmetrical arrangement to the vertical axis of the barrel in order to prevent sideways movement of the muzzle upon firing or vibration of the barrel which would affect shot accuracy and could not be controlled (column 4, lines 15-16 and column 4, lines 21-24). In addition, Figure 3 of Renner illustrates that the position of the vents is controlled by the spiral rifling of lands and grooves and it is unclear if the vents can be positioned along the length of the barrel when each vent is “contained entirely within rifle and grooves” and cannot be

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“contained within a land” or “cut into the shoulder of a land”. In addition, Renner teaches that barrel venting has been used for some period of time (column 1, 40-46) and the Renner patent addresses the problems peculiar to muzzle loading rifles (column 1, 47-67) which include damage from vents or ports to wadding or patches used in muzzle loading rifles.

In addition, the Renner ‘162 reference teaches that “the vents of the present invention appear to scatter the blast (sound), upon the firing a muzzle loading rifle. In experimental tests of prototypes while hunting, game appeared to be unable to detect the source of the sound, and were thus not able to use the sound to detect the location of the hunter” (column 3, lines 16-21). Thus, according to Renner, the game can hear the sound of the muzzle loading rifle being fired, but the game cannot discern the location of the rifle because the sound is directed outward from the rifle in multiple directions instead of one direction.

Since the sound of the rifle firing is merely scattered to multiple directions and not minimized, the vents of the Renner ‘162 reference are not “constructed and arranged” or “positioned along the length dimension of the barrel” to “minimize sound report” as required by independent claims 1 and 19 of the instant application.

Further, Applicant respectfully asserts that Renner ‘162 does not teach or suggest minimization of sound. As pointed out in the Office Action of April 15, 2005, Renner teaches reduced recoil and dispersed smoke and sound (column 2, lines 10-25) “dispersed” is not the same as “reduced”; “dispersed” is to “redirect”. Applicant’s claims herein are to the reduction and minimization of sound, not the redirection of sound. Renner ‘162 does not nor suggest sound reduction. Applicant respectfully asserts that the Renner ‘162 reference teaches the use of a greater jet force to reduce recoil and muzzle rise which will result in greater “annoyance (noise)”. The increased noise associated with ported or vented barrels proximate to the muzzle

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end as taught in Renner '162 is well-established in the shooting community, as Applicant has previously identified within specimens A, B, C, D, E1, E2, F, G, and H, as submitted in response to the Office Action of April 15, 2005.

In paragraph 4 of the Office Action of May 19, 2006, the Examiner objected to claim 23 with respect to the terms "any combination of" as new matter. Applicant believes that the amendment to claim 23 herein renders the Examiner's objection herein moot.

In paragraph 6 of the Office Action of May 19, 2006, the Examiner rejected claims 1-3, 5, 6, 8, 9, 12, 14, 15, 17, and 19-23, pursuant to 35 U.S.C. §112 first paragraph asserting that the specification does not reasonably provide enablement for how the vents are constructed and arranged to minimize sound report without undue experimentation.

Applicant respectfully traverses the assertion of the Examiner herein. Applicant respectfully requests the Examiner to consider the attached Declarations pursuant to 37 C.F.R. §1.132 of Alan Corzine and Scott Christ, who are individuals having ordinary skill in the art, who indicate that the specification of Applicant herein does teach one of ordinary skill in the art how to make or position the vents along the length of the barrel to minimize sound report at the muzzle end. Applicant respectfully requests the Examiner to reconsider and withdraw the rejection pursuant to 35 U.S.C. §112 in view of the Declarations of Alan Corzine and Scott Christ as attached hereto and incorporated by reference herein in their entireties.

In paragraph 7 of the Office Action of May 19, 2006, the Examiner rejected claims 1-3, 5, 6, 8, 9, 12, 14, 15, 17, and 19-23, pursuant to 35 U.S.C. §112 first paragraph as not being enabling as to how the vents are constructed and arranged to minimize sound report. The Examiner also asserted that the Renner '162 reference disclosed a barrel having vents or ports positioned along the length of the barrel, the vents initiating beyond 12 inches from the breach

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end.

Applicant has previously identified the deficiencies of the Renner '162 reference, which Applicant repeats and incorporates by reference herein in its entirety. For the reasons stated previously above, the Renner '162 reference fails to teach and/or suggest the elements of Applicants claims as amended herein.

In paragraph 8 of the Office Action of May 19, 2006, the Examiner rejected claim 23 pursuant to 35 U.S.C. §112 as related to the terms "any combination of". Applicant's amendment to claim 23 herein renders the Examiner's rejection moot. Applicant respectfully requests reconsideration and allowance of claim 23 as amended herein.

In paragraph 9 of the Office Action of May 19, 2006, the Examiner rejected claims 1-3, 5, 6, 8, 9, 12, 14, 15, 17, and 19-23, pursuant to 35 U.S.C. §112 second paragraph as being incomplete for omitting essential elements, such omission amounting to gaps between the elements. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claims 1-3, 5, 6, 8, 9, 12, 14, 15, 17, and 19-23, as amended herein. Applicant respectfully asserts that the claims as amended herein are not incomplete and include all essential elements and that no omission in the claim exists amounting to gaps between the elements of the claims.

In paragraph 11 of the Office Action of May 19, 2006, the Examiner rejected claims 1-3, 5, 6, 8, 9, 12, 14, 15, 17, and 19-23, pursuant to 35 U.S.C. §103(a) asserting Schumacher '914. Applicant incorporates Applicants earlier remarks related to the Schumacher '914 reference herein in their entirety. Applicant has previously identified that the Schumacher '914 reference does not suggest, teach, and/or disclose one elongate barrel having a breach end, a muzzle end, and a discharge opening where the elongate barrel has a length dimension of at least 3 ½ feet. In addition, the Schumacher '914 reference fails to suggest, teach, and/or disclose a

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plurality of vents disposed along the length dimension of the barrel for gradual release of gasses directly to the surrounding atmosphere minimizing gas pressure proximate to said muzzle end.

For the reasons identified herein, Applicant specifically asserts that Applicants claims as amended herein are not obvious over the Schumacher '914 reference.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings to produce the claimed invention. Second, there must be a reasonable expectation of success. Finally, the prior art references, when combined must teach or suggest all of the claim limitations. The teaching or suggestion to make the claim combination and the reasonable expectation of success must both be found in the prior art, and not based upon Applicants disclosure. See MPEP §2142.

Applicant respectfully asserts that the Schumacher '914 reference does not disclose or suggest all of the elements of the amended claims as identified by Applicant herein. The Schumacher '914 reference does not teach or suggest all of the limitations of either claims 1 or claim 19, and therefore does not establish a *prima facie* case of obviousness. Further, Applicant respectfully asserts that there is not motivation to modify Schumacher '914 to arrive at Applicants claims as amended herein. Schumacher '914 is specifically directed to a double barrel firearm. Schumacher provides no disclosure or insight into sound minimization for a single barrel firearm. In order to combat impermissible hindsight, the Federal Circuit has made it clear that a showing of a motivation to modify a single reference must be clear and particular.

In this case, the Office Action has not pointed out any clear and particular motivation disclosed in the prior art to modify the applied reference to provide Applicants claims



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as amended herein. The mere presence of vents between barrels of a double barreled shotgun fails to provide a motivation to modify the Schumacher '914 reference to provide for Applicants claims as amended herein.

The Declarations attached hereto for Alan Corzine and Scott Christ as incorporated by reference in their entireties specifically indicate that Applicants invention as claimed herein is not obvious to a person of ordinary skill in the art following a review of the Schumacher '914 reference and/or the Renner '162 reference. Applicant therefore respectfully requests that the Examiner reconsider and withdraw the rejection of Applicants claims as amended herein pursuant to 35 U.S.C. §103(a).

**Formalities**

Should the Examiner have any questions concerning this Amendment, then the Examiner is cordially invited to contact the undersigned by telephone, facsimile, and/or E-Mail at the below identified address. If an extension of time is required to make this response timely and no separate petition is enclosed, Applicant hereby petitions for an extension of time sufficient to make the response timely. Applicant has enclosed herewith a Petition for a three month extension of time with the appropriate fee of \$510.00. In the event that the response herein requires the payment of additional government fees and payment is not enclosed, please charge Deposit Account No. 22-0350.

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**Conclusion**

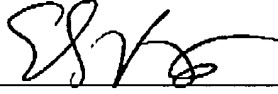
In view of the foregoing, it is believed that claims 1-3, 5-6, 8-9, 12, 14-15, 17, and 19-23, in the present application are in condition for allowance. Applicant respectfully requests reconsideration of the claims herein and that the rejections be withdrawn and the claims allowed. Early action and notification to that effect is earnestly solicited.

Respectfully submitted,

VIDAS, ARRETT & STEINKRAUS

Date: 11-14-, 2006

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